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OPERATIONAL MANEUVER FROM THE SEA: REDUCING THE NEED FOR BATTLESPACE DOMINANCE IN THE LITTORAL REGIONS

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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Abstract of

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Introduction:

As the U.S. Naval Services move into the 21st century guided by the strategic concepts of *...From the Sea* and *Forward...From the Sea*, there is a clear fundamental shift away from blue water, open ocean warfighting toward joint operations conducted "from the sea" in the littoral regions of the world.[1] A major focus for the naval services will be its ability to project power ashore from the littoral regions.[2] In its sea control mission, the U.S. Navy has always emphasized battlespace dominance. This battlespace dominance included the surface, air, subsurface, and electromagnetic spectrum. The goal was a Carrier Battle Group (CVBG) that could go anywhere to get the job done. The CVBG often had a well defined threat axis and a defense-in-depth posture that could extend hundreds of miles. Today, this has changed. The emphasis is no longer in the open ocean, where the threat and battlespace are well defined, but rather in the littoral regions where the threat and direction of the threat are not so well defined.

In the age of arms proliferation, many potential third world adversaries possess mines, tactical ballistic missiles, cruise missiles, and even submarines. The threat to naval forces operating in littoral regions to support expeditionary and joint forces is very high.[3] As naval forces operate closer to land, the threat axis becomes less clear and reaction times can be reduced significantly. The question now becomes whether true battlespace dominance really can be achieved in the littoral regions.

Research supports a thesis that *Operational Maneuver from the Sea* (OMFTS) reduces the need for battlespace dominance in the littoral regions. OMFTS combines

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[1] U.S. Navy Department, ...From the Sea, Preparing the Naval Service for the 21st Century, (Washington, DC: 1992), 2.

[2] U.S. Navy Department, Forward...From the Sea, (Washington, DC: 1994), 8.

[3] Charles R. Girvin, "Twilight of the Supercarriers," U.S. Naval Institute Proceedings, July 1993, 43.

the maneuver of naval forces and the maneuver of the Marine Air-Ground Task Force (MAGTF) to produce a "seamless operation" aimed directly at the operational objective.[4] OMFTS allows naval forces to use a larger portion of the sea as the maneuver space from which to launch an expeditionary operation. This means naval forces no longer necessarily need to achieve battlespace dominance prior to a major operation. In place of battlespace dominance, naval forces will need dominant battlespace awareness to be effective. Prior to beginning an operation, naval forces must know the enemy's strengths and weaknesses; where to best launch an attack; how to best exploit a critical vulnerability to destroy or neutralize the opponent's Center of Gravity (COG); and how to best protect naval expeditionary forces (NEF) during the operational maneuver. Research conducted will support the case that OMFTS reduces the need for battlespace dominance in the littoral regions by: (1) discussing the numerous problems with achieving battlespace dominance in the littoral regions; (2) explaining the concept of OMFTS and how it reduces the need for battlespace dominance; (3) discussing the importance of dominant battlespace awareness in implementing OMFTS.

Battlespace Dominance in the Littoral Regions:

"Battlespace dominance is the heart of naval warfare."[5] U.S. Naval Forces are very good at open ocean battlespace dominance. The well defined structure of a CVBG allows it to go anywhere in the world to become an effective instrument of national policy. Its extensive defense-in-depth posture and formidable offensive strike capability ensures sea control and battlespace dominance with a very high degree of confidence. The challenge today is to extend this battlespace dominance to the littoral regions and to land with the same confidence achieved in the open ocean.[6]

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[4] Terry C. Pierce, "Operational Maneuver from the Sea...Making it Work," Marine Corps Gazette, October 1993, 61.

[5] U.S. Navy Department, ...From the Sea, Preparing the Naval Service for the 21st Century, 8.

[6] Ibid.

With the proliferation of weapons technology, true battlespace dominance may never be achievable in the littoral regions. True battlespace dominance implies the ability to conduct operations unimpeded while maintaining complete control.[7] If challenged, units operating in the littoral regions will need to react quickly to defend forces. The ability to achieve this state will become increasingly more difficult. Even small third world countries are rapidly gaining access to relatively cheap state of the art weapons technology that will increase their effectiveness and reduce their opponent's ability to react.

Mines. Mines have always been a problem for naval forces operating in the littoral regions. During the Gulf War, two Marine Expeditionary Brigades did not land due to the threat of Iraqi mines.[8] On 18 February 1991, two U.S. Navy units, the USS PRINCETON (CG 49) and the USS TRIPOLI (LPH 10), were damaged by Iraqi mines while operating in the littoral region of the Persian Gulf.[9] Mines will continue to be a problem for forces operating in the littoral regions well into the next century. Even if mines are not present, the mere threat of mines could be enough to discourage naval operations in coastal waters.

Ballistic missiles. Saturation ballistic missile attacks against naval forces operating in the littoral regions is another real threat. Currently over 15 countries have operational missiles and many more are in the process of acquiring them.[10] Despite attempts to develop a theater ballistic missile defense (TBMD) system, the reaction times to defend against a saturation ballistic missile attack are reduced significantly in

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[7] D.J. Grieve and J.A. Millen, Battlespace Dominance (Sea Control), U.S. Naval War College Instruction NWC 3229, (Newport, RI: August 1994), 3.

[8] Glenn W. Goodman, "Breaching Unseen Barriers, Offshore Mines Remain the Achilles Heel of U.S. Naval Expeditionary Forces," Armed Forces Journal International, November 1995, 40.

[9] Thomas L. Blickensdefer, "Amphibious Mines: Silent Enemy of the Landing Force," Marine Corps Gazette, November 1992, 84.

[10] Ronald R. Fogleman, "Theater Ballistic Missile Defense," Joint Force Quarterly, Autumn 1995, 75.

the littoral regions.

Antiship cruise missiles. Antiship cruise missiles are another threat to forces operating in the littoral regions. These missiles launched from surface vessels, aircraft, or land based systems, can skim 15 to 20 feet above the horizon at speeds in excess of MACH 1.5. It is currently estimated that 40,000 of these missiles will be in the inventories of some 100 countries by the year 2000.[11] On 17 May 1987, a French Exocet fired from an Iraqi aircraft effectively put the USS STARK (FFG 31) out of operation.[12] The French are currently developing a supersonic stealth cruise missile that will be even harder to detect and destroy.[13] Antiship cruise missiles will continue to present a serious threat to naval forces operating in the littoral region, not only because of their speed and stealthy characteristics, but also because of the reduced reaction times they afford defensive systems and the effects of radar clutter caused by the near land environment.

Submarines. Small, low cost diesel submarines, with the ability to fire torpedoes and missiles, present yet another threat to forces operating in the littoral regions. While these submarines are easy to locate and track in the open ocean, they become a very serious threat in shallow water where they can often operate undetected.[14]

Individually and collectively, advanced weapons systems present a serious problem for forces operating in the littoral battlespace. Each new generation system is smarter, faster, and harder to detect. This, added to the fact that in the littoral battlespace there is not a well defined threat axis, makes operational protection very difficult. In some cases, detect-to-engage sequences of defensive systems may not be

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[11] Harry W. Jenkins, "Theater Ballistic Missile Defense: The Enabler for Operational Maneuver from the Sea for the 21st Century," Marine Corps Gazette, July 1995, 27.

[12] William D. Smith, "As Sophisticated Weapons Proliferate, More than Ever the Navy Needs to be Ready," Almanac of Seapower, January 1995, 59.

[13] Jean P. Philippe, "Matra to Develop APTGD Missile," Military Technology, February 1995, 60.

[14] Grieve and Millen, 5.

quick enough to shoot down an incoming missile fired from a land based system, surface vessel, aircraft, or submarine.[15]

Congested coastal waters. Operating in the congested coastal waters also brings the added concern of being able to effectively sort out coalition, neutral, and non-combatant craft. The USS STARK (FFG 31) was hit because it was mistaken for an Iranian ship. The USS VINCENNES (CG 49) shot down a commercial airliner when it mistook it for an Iranian combat aircraft.

Gaining control of the littoral battlespace will be a difficult if not impossible challenge for joint and coalition forces. Even when an area is presumed to be under control, the probability of a missile attack or mine field encounter may exist well into a naval expeditionary operation. It will not be until the land battlespace is secured, and the threat effectively neutralized, that battlespace dominance in the littoral region can be achieved with a high degree of confidence.

Operational Maneuver from the Sea:

OMFTS is a concept for the projection of naval power ashore. It combines the freedom to maneuver "from the sea" with the tenets of maneuver warfare.[16] OMFTS allows naval forces to use the entire sea as a maneuver space in order to set up and launch major expeditionary operations. These operations can range from an amphibious assault to a non-combatant evacuation operation. In each case, the operation is conducted as a seamless maneuver from sea to shore without the loss of momentum. Instead of the traditional amphibious operation which entails a movement from sea to shore to objective, OMFTS focuses directly on the operational objective. OMFTS emphasizes speed, surprise, flexibility, and swift maneuver to neutralize or destroy the

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[15] John T. Hood, "Navy theater Ballistic Missile Defense: Cornerstone for 21st Century Joint Operations," Marine Corps Gazette, July 1995, 32.

[16] U.S. Marine Corps, Operational Maneuver from the Sea, FMFMRP 14-21 Coordinating Draft, (Quantico, VA: 31 March 1995), 1.

enemy's operational COG by attacking a critical vulnerability.[17]

Sea as maneuver space. OMFTS treats the sea as maneuver space.[18] It gives naval forces greater use of the sea and more options in deciding when, at what distance, and at what location to project forces ashore. In the traditional expeditionary operation, the Amphibious Objective Area (AOA) is preset by the Commander Amphibious Task Force.[19] Plans are developed to methodically introduce forces into the AOA to clear mines and to gain control of the surface, air, and subsurface. The goal is to have battlespace dominance in the AOA prior to commencing the movement ashore.

OMFTS means that a traditional AOA may not need to be established. It uses the sea as a maneuver space from which to launch the operation. OMFTS depends on new technology such as the MV-22 OSPREY, Advanced Amphibious Assault Vehicle (AAAV), and the Landing Craft Air Cushioned (LCAC).[20] These vehicles will allow operations to be conducted over the horizon giving NEF's the flexibility to use a much larger area of the sea as maneuver space.

No artificial seam. In current expeditionary operations, once landing forces are ashore, command of the operation is transferred to the Commander Landing Force (CLF) or other commander ashore.[21] Once the beachhead is established and power is consolidated, forces begin to move inland toward the objective. This is usually a very deliberate, well organized, and very predictable evolution. OMFTS is a continuous

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[17] Ibid., 8.

[18] Ibid., 9.

[19] Office of the Chairman of the Joint Chiefs of Staff, Joint Doctrine for Amphibious Operations, Joint Pub 3-02, (Washington, DC: October 1992), XIII-6.

[20] Gary W. Anderson, "Implementing OMFTS: Infestation and Investation," Marine Corps Gazette, April 1995, 57.

[21] Office of the Chairman of the Joint Chiefs of Staff, Joint Doctrine for Amphibious Operations, II-2.

operation from the sea to the objective.[22] Using the sea, air, and land as maneuver space, the landing force strikes directly at an enemy's critical vulnerability before the opportunity is lost.

Strength against weakness. OMFTS concentrates strength against weakness.[23] Instead of attacking an enemy head on, OMFTS allows naval forces to maneuver quickly into position to launch a sustainable combat power directly against an enemy's critical vulnerability, without becoming entangled in prepared defenses.[24] OMFTS avoids the head on amphibious landing and concentrates on maneuver around enemy strongholds and defenses. It uses maneuver to attack an enemy's critical vulnerability from a position of advantage.

Tempo. OMFTS is the ability to apply sustainable force to a critical vulnerability faster than the enemy can effectively counter.[25] It means always staying one step ahead of the enemy, maintaining the offensive from a position of strength. As the enemy adjusts, OMFTS demands the ability to redirect to another critical vulnerability before the opportunity is taken away.

Momentum. OMFTS generates momentum.[26] It is a series of swift, violent, and aggressive actions that catch an opponent off guard and capitalizes on their confusion and inability to respond quickly. Momentum builds quickly in favor of the landing forces, resulting in defeat of the enemy.

OMFTS Reduces the Need for Battlespace Dominance:

OMFTS reduces the need for battlespace dominance in the littoral regions. This

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[22] Terry C. Pierce, "Operational Maneuver from the Sea," U.S. Naval Institute Proceedings, August 1994, 31.

[23] U.S. Marine Corps, Operational Maneuver from the Sea, 10.

[24] Carl E. Mundy, "Reflections on the Corps: Some Thoughts on Expeditionary Warfare," Marine Corps Gazette, March 1995, 29.

[25] U.S. Marine Corps, Operational Maneuver from the Sea, 9.

[26] Ibid., 10.

does not mean that battlespace dominance should not be ultimate the goal. What it does mean, is that battlespace dominance is not necessarily a prerequisite for conducting major operations aimed at projecting power ashore. Current expeditionary operations require battlespace dominance in the AOA.[27] Whether completely attainable or not, naval forces must try and achieve some level of battlespace dominance to support the landing of expeditionary forces. As already discussed, the littoral region can be chaotic. Even when the desired level of battlespace dominance is achieved, the threat can still exist of an air, missile, mine, or torpedo attack. OMFTS reduces the need for battlespace dominance in the littoral regions in two ways. First, it allows Navy units to operate over the horizon, compounding the enemy's targeting problem, while affording the NEF a greater reaction time. Second, OMFTS focuses directly at the operational objective, bypassing the need to establish a beachhead and project inward. It is a vehicle for the NEF to achieve battlespace dominance where it is easiest to begin, be that ashore or at sea.

Naval forces. OMFTS allows Navy units to remain over the horizon in the open ocean. The distance from land that Navy units can operate will depend on the threat and type of operation being conducted. If the threat is low or non-existent, Navy units can operate much closer to the coast to facilitate personnel and equipment transfers. If the threat is high, Navy units will have the flexibility to operate further out to sea, where operational protection is much easier to achieve, and where there is more maneuver space to conduct offensive and defensive operations.

Operational protection is one of the operational commander's most important responsibilities.[28] By operating further out to sea, the ability to protect Navy units

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[27] Office of the Chairman of the Joint Chiefs of Staff, Joint Doctrine for Amphibious Operations, I-5.

[28] JMO Department, "Operational Functions," U.S. Naval War College Instruction NWC 4047, (Newport, RI: January 1996), 10.

increases significantly. A three dimensional defense-in-depth posture can be established and maintained, making it extremely difficult for enemy surface, air, or subsurface units to penetrate. Long range surveillance aircraft and electronic warfare aircraft, along with fighter and attack air support, give the NEF true battlespace dominance. Even if a ballistic missile or cruise missile attack should occur from land, the layered defense and increased reaction times of a NEF further out to sea, improve the probability of a successful defense.

Operating further out to sea also gives the NEF more time to resolve information and targeting ambiguities. By having battlespace dominance, and more time to react, the NEF will have a much better tactical picture. The increased reaction time will give commanders more time to sort out and positively identify unknown contacts that may be potential threats. Operating in the littoral battlespace makes return to force and deconfliction procedures much more difficult, opening the possibility of friendly fire or the destruction of commercial shipping or aircraft.

OMFTS applies a direct and synergistic approach to expeditionary operations. It allows all forces in theater to concentrate on the operational objective.[29] OMFTS uses the sea as maneuver space and incorporates Navy units directly into the maneuver. It eliminates the need for naval forces to waste time and resources trying to gain control of the AOA. Instead, it allows Navy units to participate directly in the sea to objective maneuver by: (1) rapidly positioning units to begin the operation; (2) providing operational fires via strike aircraft and tomahawk cruise missiles; (3) implementing operational deception to confuse the enemy.

OMFTS applies the concepts of maneuver warfare to expeditionary operations adding depth and flexibility. No longer will an adversary be able to concentrate its

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[29] Ibid., 4.

assets in the AOA. High speed maneuver starting further out to sea, means expeditionary forces can penetrate virtually anywhere along the opponent's coast. This will tax enemy resources and cause them to spread surveillance and defensive assets thinly to cover larger areas.

Land forces. OMFTS also reduces the need for battlespace dominance in the littoral regions by rapidly achieving battlespace dominance on land. Landing forces will come ashore quickly via MV-22, AAAV and LCAC and attack straight at the operational objective. The goal is for expeditionary forces to apply strength against weakness and to attack weakness with unity of effort. The ultimate result will be the destruction or neutralization of the opponent's operational COG.

The built in flexibility of OMFTS reduces the need for battlespace dominance in the littoral regions. Expeditionary forces can bypass enemy strongholds and land with enough equipment and supplies to carry the mission through to completion. The object is to destroy the enemy so completely and so quickly that standard beachhead lodgements will not be necessary.[30] This flexibility means that once an attack has begun, penetration points and intermediate objectives can change as the situation dictates. If one intermediate objective is too hard to achieve, forces can disengage and probe again.[31]

OMFTS achieves battlespace dominance on land. Tactics tested as part of the V-22 Wargame held at the Marine Corps Combat Development Command at Quantico, Virginia, included "investation" and "infestation."[32] Investation is the taking of objectives behind the beach and then working toward the beach from the rear.[33] Infestation is accomplished by battalion sized V-22 raids along the enemy's lines of

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30 Anderson, 60.

31 Pierce, "Operational Maneuver from the Sea," 31.

32 Anderson, 57.

33 Ibid., 58.

communication.[34] Both tactics proved very effective when implemented as part of OMFTS. By vigorously attacking critical vulnerabilities, the enemy's operational COG was destroyed and battlespace dominance was achieved on land.

Once battlespace dominance is achieved on land, forces can work to neutralize threats from air bases and missile sites. This can be accomplished with the help of tactical fires conducted from carrier-based aircraft, tomahawk cruise missiles and, if close enough, naval gunfire support. Army tactical missiles (ATACMS) and modified standard missiles (SM-2) may also be available by the turn of the century to provide longer range and higher precision direct fire support.[35] When land battlespace dominance is achieved and the theater neutralized, Navy units will be able to move closer to gain battlespace dominance in the littoral region. This will facilitate further personnel and equipment transfers and the clearing of any mines that may exist.

Dominant Battlespace Awareness:

Dominant battlespace awareness is needed for OMFTS to be the most effective. Dominant battlespace awareness maximizes both battlespace awareness and command, control, communications, computers, and intelligence (C4I).[36] Battlespace awareness is the ability to conduct surveillance, reconnaissance, and intelligence gathering in the operating area.[37] It includes force assets such as special operations forces, carrier-based and Air Force surveillance aircraft, and submarines. It also includes satellite imagery, human intelligence, and national sensors. C4I is the system that takes the information gained through battlespace awareness and converts it into usable information for the operational commander.[38] Currently, this includes systems

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[34] Ibid., 59.

[35] Jenkins, 31.

[36] William A. Owens, "The Emerging System of Systems," U.S. Naval Institute Proceedings, May 1995, 37.

[37] Ibid.

[38] Ibid., 38.

that are organic to each service, but the vision is for a Global Command and Control System (GCCS) that is joint in nature and incorporates the concept of "C4I for the warrior."[39]

Maximizing both battlespace awareness and C4I achieves dominant battlespace awareness. Dominant battlespace awareness is important in OMFTS for three reasons. First, it helps the operational commander to determine the operational COG, critical vulnerabilities, and decisive points. Second, it facilitates operational decisions based on enemy weapons systems and troop movements. Third, it helps the operational commander in determining enemy capabilities and expected responses.

Determining the COG. In OMFTS, the ultimate goal is the destruction or neutralization of the enemy's operational COG. To be effective, the operational commander must have the resources available to accurately determine this COG and the critical vulnerabilities that lead to it. Attacking a vulnerability that is not critical could turn out to be a huge success, but serve no useful purpose. Properly identifying the COG, critical vulnerabilities, and decisive points are vital for the success of OMFTS. Dominant battlespace awareness gives the operational commander a more complete picture on which to base his decisions.

Facilitates operational decisions. Dominant battlespace awareness is also vital in conducting a successful maneuver "from the sea." Whether it's the movement of naval forces at sea, or the movement of the landing force, the operational commander must know the placement of enemy weapons systems and troops. This awareness is vital for the operational commander in order for him to accurately plan operational fires against enemy troop concentrations, missile batteries, surveillance systems and command and

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[39] Office of the Chairman of the Joint Chiefs of Staff, Doctrine for Command, Control Communications, and Computer (C4) Systems Support to Joint Operations, Joint Pub 6-0, (Washington DC: May 1995), II-11

control (C2) nodes. It is also vital in determining the actual maneuver sequence. As naval units maneuver at sea, dominant battlespace awareness will ensure they remain clear of enemy cruise missile sites and mine fields. It will be vital in both the planning and execution of the maneuver operation. For the landing force, it will ensure that strength is applied against weakness and that the best avenues of attack are identified.

Determining enemy capabilities. Understanding the enemy's capabilities and expected responses is also a factor in achieving dominant battlespace awareness. Analyzing possible courses of action the enemy can take, and then figuring these responses into the commander's estimate process, is vital to ensure the highest probability of operational success. Effectively evaluating enemy capabilities will enable the operational commander to pick the best course of action to pursue. Dominant battlespace awareness gives the operational commander the tools he needs to effectively plan and execute OMFTS.

Essence of Operational Art:

OMFTS exemplifies the concepts of operational art. It links strategy and tactics in a new era of expeditionary warfare.[40] The traditional amphibious operation that proved successful to this point is rapidly becoming inadequate. The proliferation in weapons technology means that the ability of naval units to gain battlespace dominance in the littoral region to support expeditionary forces can no longer be taken for granted.

OMFTS is a concept that employs the principles of operational art to reduce the need to achieve battlespace dominance in the littoral region. It avoids the head on amphibious assault by using operational maneuver to attack directly at the operational objective. It allows Navy units to achieve and maintain battlespace dominance in the open ocean, while landing forces achieve battlespace dominance on land. OMFTS

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[40] Milan N. Vego, "Operational Art," U.S. Naval War College Instruction NWC 4047, (Newport, RI: January 1996), 2.

relies on the principles of operational art such as maneuver, tempo, and momentum to mass against the enemy's critical vunerabilities in order to destroy or neutralize their operational COG.[41] In summary, OMFTS employs many of the concepts of operational art. It is the smart way to conduct expeditionary warfare in the modern age. Instead of force against force and technology against technology to achieve battlespace dominance in the littoral regions, OMFTS employs dominant battlespace awareness to find and exploit enemy weakness.

The Challenges:

Although OMFTS reduces the need to have battlespace dominance in the littoral regions, challenges still exist for the operational commander. First among these challenges is the implementation of a C2 system that better integrates joint forces operating in the littoral battlespace. A second challenge is the integration and effective utilization of coalition forces. A third challenge is the protection of Navy units which, by the nature of their assignment, must operate independently in unfriendly coastal regions.

C2 in the littoral region. The use of joint forces to support a NEF in the projection of power ashore is a scenario that will be played out more and more as the military emphasizes joint military operations. For example, OMFTS could be conducted in conjunction with the landing of an Army Airborne Division and with the support of Air Force surveillance and strike aircraft. The Navy's current C2 structure known as the Composite Warfare Commander (CWC) concept, is not the best C2 structure from which to conduct littoral operations within a joint environment.[42] The CWC concept was developed for a war at sea scenario where the Battle Group Commander could delegate Warfare Commander tasks. This enables the commander and his staff to

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[41] Office of the Chairman of the Joint Chiefs of Staff, Doctrine for Joint Operations, Joint Pub 3-0, (Washington, DC: February 1995), xi.

[42] Burton C. Quist, "Naval Expeditionary Warfare Update," Marine Corps Gazette, March 1996, 41.

monitor the tactical situation, to give guidance when needed, and to "command by negation." This CWC concept is primarily a defensive C2 structure that ensures the NEF is protected in three dimensions.

OMFTS is an offensive operation that employs Navy units as part of the operational maneuver. In a joint operation, Navy and Marine Corps units could be coordinating with Army and Air Force units well before the operation begins. A Navy and Marine Corps C2 structure that is more offensive in nature, and more conducive to integration into the Joint Task Force (JTF) C2 structure, would make it much easier to conduct a joint "operational maneuver from the sea and air."

The Integrated Battle Organization (IBO) is a new C2 concept, developed by the Naval Doctrine Command, that is designed to replace the CWC concept as the Navy moves forward implementing *...From the Sea* and *Forward...From the Sea*. The IBO has a flat, vice hierarchical, organizational structure.[43] It resembles and meshes nicely with the JTF C2 structure. Although still under development and evaluation, the IBO is a huge step in the right direction. In order for OMFTS to work more effectively in a joint arena, a standard flexible and easy to use C2 structure needs to be developed and implemented for all operational forces.

Use of coalition forces. The second issue is how to incorporate coalition forces into littoral operations, since many, if not all, future operations will have coalition forces assigned. The issue here is not just the integration of coalition forces into the naval and ground operations, but also the sharing of vital intelligence. There is currently no "universal doctrine for coalition warfare."[44] To operate effectively in the littoral battlespace, dominant battlespace awareness is vital for operational planning and

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[43] Ibid., 39.

[44] U.S. Marine Corps, The Role of the Marine Corps in the National Defense, FMFM 1-2 , (Washington, DC: 21 June 1991), 6.3.

execution as well as for operational protection. Coalition forces operating in littoral regions will need accessibility to information within the U.S. C4I network in order to be effective participating members of the coalition. Knowledge of enemy weapons systems capabilities, troop strengths and locations, and expected courses of action will all need to be shared with coalition forces. Equally important might be the intelligence and sensor capabilities that coalition forces bring to an operation. Currently, the sharing of this information is slow and awkward, often making it time late in fast paced operations.

Development of a sanitized version of the GCCS that can be modified to reflect the type, nature, and operational requirements of the coalition is needed. Such a system would ensure coalition forces operating in the littoral region in support of an OMFTS would have access to the same targeting and planning information as U.S. Forces. Information deemed too sensitive could be sanitized at the national level before broadcast to coalition forces. The result would be a system that ensures dominant battlespace awareness for joint forces using the GCCS and for coalition forces using a similar sanitized system. Together, the joint and combined forces would have the tools needed to operate more effectively in littoral operations.

Protection of units operating independently. The third challenge for joint forces operating in the littoral battlespace is the protection of units operating independently. Surveillance operations, escort missions, blockade enforcement, and transits through coastal passages such as the Strait of Hormuz are often conducted by independent units. The protection of these units from land based systems, surface vessels, aircraft, and submarines will continue to be difficult. Dominant battlespace awareness will be paramount for these units to effectively carry out their mission. Individual units operating in the littoral regions of a potentially hostile country need to know the exact location and characteristics of weapons systems, and the exact position of naval and air units. As in

OMFTS, operational commanders with units operating in the littoral regions will need to take all available information and smartly plan their operations to ensure mission success while offering the highest degree of operational protection.

Conclusion:

The strategic concepts of *...From the Sea* and *Forward...From the Sea* present a challenge for naval forces conducting operations in the littoral regions of the world. Weapons proliferation by third world countries is making this task increasingly more difficult. Some would argue that advances in weapons and sensor technology may be able to effectively counter these threats. TBMD systems and space based sensors may help achieve some degree of battlespace dominance in the littoral regions, but the littoral battlespace has become a very complex, chaotic, and difficult place to operate. To insert naval forces into an AOA to achieve battlespace dominance by sheer force could mean heavy losses, even with the best defensive systems. Attacks by land based systems, surface vessels, aircraft and submarines could rapidly overwhelm a NEF.

OMFTS reduces the need for battlespace dominance in the littoral region. It accomplishes this by effectively employing the concepts of operational art. Rather than attacking an enemy head on, OMFTS uses maneuver, tempo, and momentum to attack directly at the operational objective. It avoids the head on strength against strength fight, and instead applies strength against weakness. It relies on the ability to find and exploit the enemy's critical vulnerabilities.

To make OMFTS more effective, dominant battlespace awareness is needed. The operational commander must be able to effectively merge organic intelligence and surveillance information with that obtained from national sensors, satellite, and human intelligence. The concepts of a GCCS and "C4I for the warrior" are important if future operational commanders hope to achieve the levels of dominant battlespace awareness

that are needed. Dominant battlespace awareness is rapidly becoming the glue that holds an operation together.

In summary, research and analysis supports the following conclusions:

1. Battlespace dominance in the littoral regions is difficult to achieve.
2. The Navy will maintain battlespace dominance in the open ocean.
3. OMFTS achieves battlespace dominance on land.
4. OMFTS reduces the need for battlespace dominance in littoral regions.
5. Dominant battlespace awareness makes OMFTS more effective.

Operations in the littoral region will continue to challenge joint forces. Although improvements in C2, TBMD, and sensor capabilities will help, they are not the complete answer. Successful operations in the littoral battlespace will rely heavily on joint and combined C4I systems that will give the operational commander the advantage of dominant battlespace awareness. With dominant battlespace awareness, OMFTS can be employed using the concepts of operational art to ensure victory.

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